

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors:

Peter G. Borden; Jiping Li; Jon Madsen

Assignee:

Boxer Cross

Title:

Calibration As Well As Measurement On The Same Workpiece During

Fabrication

Serial No.:

09/974,571

Filing Date:

Oct. 9, 2001

Examiner:

Unknown

Group Art Unit:

2877

Docket No.:

BOX013 US

Confirmation No:

1003

Santa Clara, California January 05, 2004

COMMISSIONER FOR PATENTS P.O. BOX 1450 ALEXANDRIA, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.97(b)

Dear Sir:

Pursuant to 37 C.F.R. § 1.56, §1.97 and §1.98, the Applicants submit for consideration in the above-identified patent application the document listed on the accompanying Form PTO-1449. Copies of references numbered 52-86 are submitted herewith. The Examiner is requested to make these documents of record. The remaining references are not attached hereto, because these references are issued patents or publications which are readily available in the U.S. Patent and Trademark Office.

In addition, Applicants submit, for the Examiner's consideration, the prosecution histories of the following co-owned applications/patents, cited by serial number, first named inventor and filing date. The Applicants presume that the Examiner has access to and will review the applications/patents and the files thereof for any office actions, amendments or other materials that may be relevant to the patentability of the claims of the present application.

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2350 Mission College Blvd. Suite 360 Santa Clara, CA 95054 (408) 982-8200 FAX (408) 982-8210 Citation of these prosecution histories (including the arguments against patentability advanced by Examiners in their respective Office Actions and the Applicants' arguments in the corresponding Amendments) is in accordance with the recent case DAYCO PRODUCTS, INC. v. TOTAL CONTAINMENT, INC., 02-1497, decided May 23, 2003 by the Court of Appeals for the Federal Circuit. The Examiner is presumed to be knowledgeable about the current case law, including the above-mentioned Dayco case. However, if the Examiner needs a copy of the Dayco case, please call the undersigned.

For any such U.S. patent application(s) that are currently pending, the Applicants further presume that the Examiner will consider any future office actions, amendments or other materials in the file thereof that may be relevant to the patentability of the claims herein. If the Applicants' understanding in this regard is not correct, please notify the undersigned so that copies of any such documents can be submitted to the Examiner.

	Serial No.:	First Named Inventor	Date:
1.	10/090,316	Peter G. Borden	03/01/2002
2.	10/090,287	Peter G. Borden	03/01/2002
3.	09/521,232	Peter G. Borden	03/08/2000
4.	10/090,262	Peter G. Borden	03/01/2002
5.	09/788,273	Jiping Li	02/16/2001
6.	10/722,724	Peter G. Borden	11/25/2003
7.	09/095,805	Peter G. Borden	06/10/1998
8.	09/095,804	Peter G. Borden	06/10/1998
9.	09/544,280	Peter G. Borden	04/06/2000
10.	10/269,619	Peter G. Borden	10/11/2002
11.	10/253,119	Peter G. Borden	09/23/2002
12.	10/253,121	Peter G. Borden	09/23/2002
13.	09/274,821	Peter G. Borden	03/22/1999
14.	09/935,128	Peter G. Borden	08/21/2001
15.	09/994,441	Peter G. Borden	11/26/2001
16.	10/223,952	Peter G. Borden	08/19/2002
17.	09/799,481	Peter G. Borden	03/05/2001

This Information Disclosure Statement is submitted pursuant to 37 CFR §1.97(b) as it within three months of the filing date of a national application other than a continued prosecution application and/or before the mailing of a first Office Action on the merits. Accordingly, no fee is required.

Applicants would appreciate the Examiner initialing and returning the Form PTO-1449, indicating that the information has been considered and made of record herein.

The information contained in this Information Disclosure Statement is to the best of my knowledge and is not to be construed as a representation that: (i) a complete search has

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> (408) 982-8200 FAX (408) 982-8210

> > Application No. 10/247,135

been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

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Respectfully submitted,

Omkar K. Suryadevara Attorney for Applicants

Reg. No. 36,320

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2350 Mission College Blvd. Suite 360 Santa Clara, CA 95054 (408) 982-8200 FAX (408) 982-8210

Application No.: 09/974,571 U.S. Department of Commerce, Patent and Trademark Office Filing Date: October 9, 2001 First Named Inventor: Peter G. Borden JAN 0 5 2004 Group Art Unit: 2877 Examiner Name: Unknown INFORMATION DISCLOSURE STATEMENT BY APPLICANT Confirmation No.: 1003 (Use several sheets if necessary) Attorney Docket No.: BOX013 US

			U.S. Pa	tent Documents			
*Examiner Intials		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
	1.	4,273,421	6/16/81	Gurtler	356	432	
	2.	4,854,710	8/8/89	Opsal et al.	356	432	
	3.	4,211,488	7/8/80	Kleinknecht	356	433	
	4.	5,379,109	1/3/95	Gaskill et al.	356	445	
	5.	6,489,801	12/3/02	Borden et al.	324	766	
•	6.	5,966,019	10/12/99	Borden	324	752	
	7.	5,377,006	12/27/94	Nakata	356	349	
	8.	5,706,094	1/6/98	Maris	356	432	
	9.	6,118,533	9/12/00	Banet et al.	356	345	
	10.	6,323,951	11/27/01	Borden et al.	356	502	
	1.	6,426,644	7/30/02	Borden et al.	324	766	
	12.	4,952,063	8/27/90	Opsal et al.	356	432	
	13	5,042,952	827/1991	Opsal et al.	356	432	
	14.	5,159,412	10/27/92	Willenborg et al.	356	445	
	15	5,181,080	1/19/93	Fanton et al.	356	381	
	16.	5,228,776	7/20/93	Smith et al.	374	5	
-	17.	4,255,971	3/17/81	Rosencwaig	73	606	
	19.	4,579,463	4/1/86	Rosencwaig et al.	374	57	
	19.	4,632,561	12/30/86	Rosencwaig et al.	356	432	
. <u>.</u>	20.	4,636,088	1/13/87	Rosencwaig et al.	374	5	<u></u>
'	21.	4,750,822	6/14/88	Rosencwaig et al.	324	445	
	22.	4,513,384	4/23/95	Rosencwaig	364	563	
	23.	6,049,220	4/11/00	Borden et al.	324	765	. ,
	24.	6,483,594	11/19/02	Borden et al.	356	502	
	25.	5,652,716	7/29/97	Battersby	703	13	

Examiner:

Date Considered:

^{*} Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with your communication with applicant.

U.S. Department of Commerce, Patent and Trademark Office

JAN 0 5 2004

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(Use several sheets if necessary)

Application No.:	09/974,571
Filing Date:	October 9, 2001
First Named Inventor:	Peter G. Borden
Group Art Unit:	2877
Examiner Name:	Unknown
Confirmation No.:	1003
Attorney Docket No.:	BOX013 US

	26.	5,761,082	6/2/98	Miura-Mattausch	703	14	
····	27.	4,996,659	2/26/91	Yamaguchi et al.	714	736	
	28.	6,154,280	11/2/00	Borden	356	376	 "./
	29.	6,054,868	4/25/00	Borden et al.	324	752	
	30.	5,883,518	3/16/99	Borden	324	752	
	31.	5,877,860	3/2/99	Borden	356	376	
	32.	4,652,757	3/24/87	Carver	250	360	
	33.	5,978,074	11/2/99	Opsal et al.	356	72	
•	34.	6,211,961	4/3/03	Maris	356	432	
	35.	6,268,916	7/31/01	Lee et al.	356	432	
	36.	6,169,601	1/2/01	Eremin et al.	356	240	
	37.	2002/0126732A1	9/12/02	Shakouri et al.	374	130	
	38.	4,201,087	5/6/80	Akita et al.	73	339	•
	39.	2003/96436A1	5/22/03	Satya et al.	438	11	
	40.	6,486,965	11/26/02	Kim	356	626	Paris
	41.	5,741,614	4/21/98	McCoy et al.	430	30	
	42.	6,327,035	12/4/01	Li et al.	356	432	
	43.	5,454,004	9/26/95	Leger	372	99	-
	44.	6,281,027	9/28/01	Wei et al.	438	14	
7	45.	4,521,118	06/00/85	Rosencwaig	374	5	
	46.	5,074 669	12/1/91	Opsal	356	447	
	47.	5,764,363	6/9/98	Ooki et al.	356	364	·
<u></u>	48.	5,657,754	8/19/97	Rosencwaig	128	633	
 	49.	4,634,290	1/6/87	Rosencwaig	374	5	
	50.	4,552,510	6/11/85	Rosencwaig	374	7	
	51.	4,571,685	02/18/86	Kamoshida	364	468	

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Date Considered:

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U.S. Department of Commerce, Patent and Trademark Office	Application No.:	09/974,571
P	Filing Date:	October 9, 2001
	First Named Inventor:	Peter G. Borden
JAN 0 5 2304	Group Art Unit:	2877
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)	Confirmation No.:	1003
	Attorney Docket No.:	BOX013 US

			Foreign P	atent Documents						
							Tran	slation		
		Document	Date	Country	Class	Subclass	Yes	No		
	52.	99/94880	12/16/1999	PCT	G01R	31/26				
	53.	00/07357	3/20/2000	PCT	G01L	21/17				
		Other Ar	t (Including Author	r, Title, Date, Pertinent P	ages, Etc.)	, -	, L ,	<u></u>		
	54.	Rosencwaig et al. 1985, pp1013-101		nal Waves Through Opti	cal Reflectance"	, Appl Phys.	Lett. 46,	June		
ū	55.	Rosencwaig, "The	rmal-Wave Imaging	g", SCIENCE, Volume 2	18, No. 4569, O	ct. 1982, pp.2	23-228	-		
	56.	-		n and Thin-Film Thickne No. 20, Oct. 1983, pp. 3		s with Laser I	Beam			
	57.	Rosencwaig, "The	Deflection", Applied Optics, Vol. 22, No. 20, Oct. 1983, pp. 3169-3176 Rosencwaig, "Thermal Wave Characterization and Inspection of Semiconductor Materials and Devices", Chapter 5 (pp. 97-135) of Photoacoustic and Thermal Wave Phenomena in Semiconductors, North Holland							
	58.	Constantinos Christofides "Photomodulated Thermoreflectance Investigation of Semiconducting Implanted Wafers," Microelectronic Engineering, 40 (1998), 251-261.								
	59.		Ion Implant Monitor 321, (1987), 537-541	ring With Thermal Wave	Γechnology," Nuc	clear Instrume	nts and N	1ethods		
	60.	J. Opsal, "High Resolution Thermal Wave Measurements and Imaging of Defects and Damage in Electronic								
	61.	Jon Opsal, "Modulated Interference Effects and Thermal Wave Monitoring of High-Dose Ion Implantation in Semiconductors," Review of Progress in Quantitative Nondestructive Evaluation, Vol. 8B, Plenum Publishing Corporation, 1989.								
	62.	Quality Today News, article entitled "In-Line Metrology SEM System with 3D Imaging" dated January 10, 2000 and published at http://www.qualitytoday.com/Jan-00-news/011000-3.htm before April 4, 2001								
	63.	Bristow, Thomas C. and Dag Lindquist, "Surface Measurements With A Non-Contact Nomarski-Profiling Instrument", Interferometric Metrology, SPIE vol. 816, August 1987, pages 106-110								
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	65.	A. Rosencwaig, "Tpp.182-191	hermal Wave Mea	surement of Thin-Film T	hickness", 1986	American Cl	nemical	Society		
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